



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

September 21, 2011

Via E-mail

Gordon E. Nye
President and Chief Executive Officer
ZELTIQ Aesthetics, Inc.
4698 Willow Road, Suite 100
Pleasanton, CA 94588

**Re: ZELTIQ Aesthetics, Inc.
Registration Statement on Form S-1
Amended September 7, 2011
File No. 333-175514**

Dear Mr. Nye:

We have reviewed your registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Our Business, page 1

1. We note limited revisions in response to prior comment 1 and therefore reissue the comment. The risks and drawbacks of your product should be disclosed as prominently as your disclosure of the benefits of your product. Revise the summary to provide balanced disclosure.
2. We note from the materials you have provided that your product has achieved less than 100% effectiveness. In this regard, the Rosales-Berger study (seven of nine subjects), the study labeled #230 (20 of 25 subjects), and the study labeled #62 (17 of 21 subjects) appear to show similar success rates. Given these results, it is unclear why the prospectus includes numerous unequivocal statements regarding the effectiveness of your product. For example, we note your statement in the final sentence of the first paragraph of this section that your product "safely, noticeably and measurably reduces the fat layer within

a treated fat bulge without requiring the patient to diet or exercise.” Please reconcile your prospectus disclosure.

3. We note your response to prior comment 3; however, your references to the “significant experience” and “target characteristics” of the physicians you target remain vague. Please explain in greater detail whether and how you are applying objective criteria to determine which physicians to target. For example, it is unclear whether you require a physician to have practiced for a minimum number of years, performed a certain number of procedures or established a particular-sized patient base. If you do not apply objective criteria, please tell us how you are able to include disclosure that 4,000 to 5,000 physician practice sites meet your target characteristics. In your response, please also clarify how you define a physician practice site.
4. In your response to comment 3 of the staff’s letter dated August 9, 2011 you state that no geographic region or specific country has been responsible for a disproportionate amount of revenue generated outside of North America. However, your response to comment 4 of the staff’s letter dated September 2, 2011 indicates that the Asia-Pacific region accounted for half of your revenue outside of North America for the fiscal year ended December 31, 2010. Please revise your disclosure to include the information contained in your response to prior comment 4.

Market Overview, page 2

5. We note your response to prior comment 5 and continue to believe that the definition of your target market is too broad. Please revise your disclosure to clarify the inherent limitations of using the aesthetic procedures market as a proxy for your product’s more limited addressable market. To this end, please also add disclosure identifying the disparate treatment options that fall within the aesthetic procedures market.
6. We note your response to prior comment 7. In order to accurately describe the relevant scope of the research conducted on your product, please disclose in the summary and business sections the number of patients in each study.
7. We note your response to prior comment 8. Please disclose in the summary the information provided in your response as to why obese patients may not be appropriate candidates for your procedure.

Excellent Safety Profile, page 3

8. We note your response to prior comment 9. Revise to disclose the adverse events of which you are aware that were not resolved within one week.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 42

-Critical Accounting Policies and Estimates, page 45

-Stock-based Compensation, page 46

9. We note your response to prior comment 16. For your stock options granted on July 27, 2011 and July 29, 2011, please describe in more detail why you assigned a 50% probability to an IPO exit strategy on October 15, 2011 considering you filed your Form S-1 on July 13, 2011.

Business, page 65

10. We note your response to prior comment 17 and reissue the comment. As previously noted, your business section should provide a balanced discussion of your product. Refer to comment 1 above.

Sales, page 80

11. We note that you have several distributors, including a large distributor in Brazil. Please disclose the material terms of the standard distribution agreement, including term, termination, exclusivity and indemnification provisions. If the material terms of your distribution agreements vary by distributor, please describe the range of such terms. As an example, we note that the contractual term in the form of distribution agreement filed as exhibit 10.26 is unspecified and appears subject to negotiation.

Customer Support, page 81

12. We note your response to prior comment 19. Please revise to describe the material terms of your third-party logistics agreement with Crane Worldwide Logistics. In addition, please file the agreement with your next amendment.
13. Revise to disclose your procedure card warranty, if material.

Competition, page 83

14. The relative strengths and disadvantages of ultrasound and laser energy-based products remain unclear. Revise this section to clarify.

Components of Executive Compensation, page 104

15. We note that you have taken certain actions with regard to your executive compensation since the end of the most recent fiscal year. As one example, we note the agreement with

Gordon Nye dated July 11, 2011 to increase his base salary by approximately 66%.
Revise to provide updated disclosure. Refer to Instruction 2 of Item 402(b) of Regulation S-K.

Stock-Based Incentive Awards, page 108

16. We note your response to prior comment 26 and reissue the comment. To the extent the committee's decisions were based on subjective rather than objective criteria, provide for each named executive officer a specific discussion of the roles, responsibilities and accomplishments (and/or shortcomings) that formed the bases for the board's subjective determination. In addition, please explain the substantial differences in the option awards made to your first, second and third most-highly compensated executives.
17. Please disclose the minimum price at which the company's shares must be listed in order for the chief executive officer's options to purchase 1,107,444 shares to fully vest.

Brazilian Distribution Agreement, page 126

18. We note your response to prior comment 31. Please provide an expanded analysis as to why you believe that your agreement with your Brazilian distributor should not be filed despite the 39% interest in the distributor held by Venrock, one of your principal stockholders. In your response, please refer specifically to Items 404 and 601 of Regulation S-K as well as applicable staff guidance, as appropriate.

Exhibits

19. We note that you have not filed all of your exhibits, including your material license agreement with Massachusetts General Hospital and your legality opinion. Please note that the staff will require additional time to complete its review once all of your exhibits are filed.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;

- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Tara Harkins at 202-551-3639 or Kevin Vaughn, Accounting Branch Chief, at 202-551-3643 if you have questions regarding comments on the financial statements and related matters. Please contact Jay Mumford at 202-551-3637 or Daniel Morris, Special Counsel, at 202-551-3314 with any other questions.

Sincerely,

/s/ Daniel Morris for

Amanda Ravitz
Assistant Director

cc (via e-mail): Jeffery C. Thacker, Esq.